BALL STATE UNIVERSITY

STUDENT UNION

THESIS PROJECT
C.A.P. '72-'73
DENNIS RICHARD DILLS
Ball State University is a growing school. This may seem a rather mundane statement; however, the important aspect to be recognized is the fact that the rate of growth is extremely large. Ten years ago Ball State had a total enrollment of 7,000 students; today the enrollment figures are over 18,000 students with predictions indicating that this rate of growth is going to continue. Part of this aspect of growth can be recognized as Ball State changed from a Teacher's College to a full university status in 1963.

This aspect of student population growth can also be seen in physical growth. A rapid pace can be seen within the last ten years. New buildings include the Physical Science-West building, the nursin building, the Teacher's College, Saffolitte Halls, Johnson Halls, Schneider Apartments, the St. Vincent Pool, the new Archit eture building, and in the near future a new library and a new Business College. Because of the tight money situation and budget limitations, campus expansion and building development have been limited to academic and dormitory structures. Now is, however, a very real need for the construction of a new student union at Ball State. This is the project I shall endeavor to undertake.

There is real student dissatisfaction with the present student center. Perhaps this structure functions well when the university has only 7,000 students, but since growth has developed almost threefold, it only stands to reason that this facility is going to be inadequate to handle today's needs. The present student center space is further reduced to the student in fact the building has administrative, commercial, and social facilities included in it which were never meant to be used by the student in the first place.

I feel that the stigma attached to Ball State as a "suitcase college" can be contributed to some degree to the fact that there are inadequate recreational facilities for the students both in the university and in the town of Muncie itself. If there could be developed a place that could become an activity center for the students, I feel that a great deal of this "suitcase" stigma could be reduced.

In brief, then, my proposal for a thesis project is:

What? Student Union Building.
Where? Ball State University; Muncie, Indiana; in an area easily accessible to most of the students.
Why? Due to the lack of recreational facilities now available to the student population.
Justification? The existing structure is inadequate in function, purpose, and space that are required by the students of the university today.
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STUDENT UNIONS


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STUDENT UNION FOR BALL STATE UNIVERSITY

DENNIS R. DILLS
BALL STATE UNIVERSITY
DESIGN 404
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INTRODUCTION
Introduction

The purpose of this program is to present as clearly as possible the existing situation at Ball State University in Muncie, Indiana as far as satisfying the social and service needs for the students and faculty of the University. Ball State attained the status of a full university in 1965. Before that date it was recognized as one of the foremost Teacher Colleges in the country. It is, in the opinion of the preparer of this document, still in a transitory stage in taking the transition from a specialized college structure to that of a university. Many programs and many activities have been developed in the recognition of the fact that the alternatives which are presented by a university are far greater than those of when the institution was primarily a Teachers College. Construction of many new facilities has occurred within the last ten years even though the period after 1965 has become a drought period for most state financially aided institutions of higher education within the state of Indiana. This in itself points out the fact that Ball State University is becoming highly recognized as one of the more important higher education institutions within the state. The physical needs of the educational process are being rapidly met; e.g. the Teachers College, the Home Economics house, the Architecture building, the Library, the Science and Nursing Building with plans for a Social Science center and new Business College in the not too far distant future. As one can easily see the actual in class educational needs of the university's students seems to be of great importance to the administration, but there are other needs that must be fulfilled by the university if a student is to receive a well rounded and fully developed educational experience within the university structure. It is in this area of other needs that Ball State is falling critically short of the obligation, yet obligation, to its students to educate them in other academic situations. Ball State has been notoriously known as a prime example of a "suitcase college". All that one has to do is take a walk through the campus on weekends, holidays, or quarter breaks and one will fast become aware of the fact that something is missing. There is nothing that will keep the students on the campus after the formal education process has reached the 5 o'clock quitting time. I maintain that one of the strongest magnets that can be developed to attract the students back to the university during their "off" periods is a well programmed, well functioning, and well designed student or uni-
University center. "Unions now exist at colleges for 300 and even at some large high schools. This is because of the realization that the student on whatever campus is a person as well as an intellect; that he has elementary human needs - to eat, to associate with his fellows - which the college town can satisfy in only limited ways, and that there is risk even in the small colleges, that special interest groups... will become insular withdrawing into themselves, splitting the campus socially, sappling the process of cross contamination of ideas.... Almost all have come to recognize that the campus environment furthers (or may deter) the fruitful use of student time and the learning process, that much of what students learn, they learn from each other and from faculty in informal association outside of the classroom.

It was interesting to note that in a questionnaire that was prepared by this author and filled out by several of the students around the campus, there was no really strong ties felt between the students of the university and what is presently considered the student union. Complaints seemed to come from the great majority of those interviewed of the facts that the commercialism of the building overwhelmed them and that the functions of the building itself seemed to be geared to all within the community but the student. Exorbitant book store rates, invasion of the facility by Burris students, and invasion of the facility by people attending conferences were all found to be common complaints. In effect the students had no real identification with the facility as fulfilling their wants, needs, and desires. Another very common complaint has to do with the decentralization of the building from the main portion of the campus. Most felt that it was so far removed from them physically that special efforts had to be made in order for the student to even use the services that are presently offered there.

In summary it can be said that although Ball State is a rapidly expanding physical campus as well as formally fulfilling the educational needs of the campus; it is, however, not recognizing the importance of an informal educational process and the benefit that this type of education can give to the student. The proper, structure, and physical location of the existing student union does not detract from what the function of a student union should be rather than fulfilling its true function.
What is a student union?

After reading the introduction to this program, one probably receives a feeling of importance that is placed upon the development of a student union on the university campus. One may also begin to wonder if this urgency and importance is solely a fabrication from the mind of the author of this report; after all, there is no expertise upon this part of this area. To this question, I would like to present some statements that are given by people who are professionals in the field of student union planning. All of these statements are given by people who are members of the Association of Student Unions International, an organization of which Fall State is a member.

To begin with, what is a student union and what function does it fulfill? The answer to this is, "...the union is the physical facility which makes possible an informal educational process which is compulsory to the college's formal educational process and which serves as an important factor in the student's personal development and college education." So here in this statement one sees a direct correlation between the student union and the function of the university—education, the difference being that while the union should fulfill the service needs of the student, it should also be seen as where an informal educational process is developing.

The next question one may logically ask is what is the interest aspect of the union that provides an allure for the educational process as well? The purpose of a college union can be broken down into two major missions: that of teaching and that of service. "The Purposes of Education in American Democracy lists four groups of objectives of education—i.e., self-realization, human relationship, economic efficiency, and civic responsibility—and each group into major components. A college union serves to fulfill most nearly all the objectives listed, but can function most effectively in these areas for which it is designed. Such as recreation, aesthetic interests, and character.

OBJECTIVES OF SELF-REALIZATION
-----Recreation
-----Intellectual Interests
-----Aesthetic Interests
-----Character
OBJECTIVES OF HUMAN RELATIONSHIP
------Respect for humanity
------Friendship
------Cooperation
------Courtesy

OBJECTIVES OF ECONOMIC EFFICIENCY
------Work
------Occupational Appreciation

OBJECTIVES OF CIVIL RESPONSIBILITY
------Social Activity
------Social Understanding
------Tolerance
------Political Citizenship
------Devotion to Democracy

The secondary purpose of the college union, that of service, need not and should not be distinct from the educational purpose, but the duration of operating hours and financial complexities of most services—food, checking, information, bookstore, barbershop—place much of this area out of the realm of primary education. This does not mean, however, that a number of learning opportunities do not exist. While students will seldom possess the knowledge, experience, viewpoint, local background, or time to permit the to enter in detail into the operation of the union plant, its service departments, or its personnel program, they can and should contribute to the establishment of overall policies. Their participation can serve to keep the staff attuned to the thinking of its clientele while interpreting the problems of various areas to the students. The ultimate responsibility must rest with the professional and business staff. Nevertheless, the opportunities for realistic education which exist in the business operations of the union must not be dismissed.

As one can see from the preceding statements, besides social and educational intercourse between people, there are indeed many other ways in which the union can serve to form an educational value in an informal way to its users. One must not forget that the philosophy of the union will serve to develop cultural areas within the building that may enhance the formal educational process.
Excerpts from the
Ball State University
Master Plan
Excerpts from the Ball State Master Plan

Master Plan Recommendations

A brief summary of the recommendations of the master plan are here presented to familiarize the reader with several basic concepts that are at least being recognized by Ball State University. A list of these recommendations are:

1. Develop a vehicular free pedestrian zone from the south quadrangle area to the gymnasium.
2. Develop an outer loop of arterial roads to carry non-Ball State traffic around the campus.
3. Develop a Ball State oriented inner loop for intra campus traffic and service.
4. Provide parking facilities in the central portion of campus for faculty, staff, and visitors.
5. Provide parking facilities for approximately 17,000 cars by 1980. (25,000 student enrollment)
6. Develop a campus shuttle bus service.
7. Locate the proposed new library facility directly north of Emens Auditorium.
8. Develop projected new academic facilities around a major space located north of Emens Auditorium.
9. Develop area around Cardinal Creek Pond for passive recreation and court sports.
10. Relocate proposed central receiving facility to the east portion of campus in the vicinity of Bethel Pike.
11. Retain basic recommendations of phase I report for land use north of Bethel Pike, but modify distribution and proportions.
12. Acquire additional property in three priority zones.
13. Undertake a study of campus recreational requirements.
14. Adopt as university policy these goals and concepts which reflect the major ideas of the Supplementary Report.
15. Create a committee or committees specifically responsible for plan implementation and coordination with local government officials.

Goals and Objectives

The four major areas of goals and objectives of the planning committee are:

1. Environmental Desirability
2. Convenience and efficiency of circulation
3. Safety (vehicular and pedestrian)
4. Economics

Pedestrian Circulation

According to the master plan, the recommended concept is "The safest system for pedestrians is one which separates their patterns from those of vehicles. As part of the inner loop concept, vehicular traffic skirts main pedestrian flows and minimizes the points of conflict."

Creation of a vehicular free zone also provides the opportunity to develop a pedestrian oriented environment. A pedestrian oriented environment implies a flow, scale, and texture geared to the walker. Signage, planting, and furnishing should be chosen upon the basis of man.

The recommended pattern of pedestrian movement is based on the concept of dual foci. One focus is the present quadrangle and the other will be created in the area north of Ehens Auditorium. They will be linked by a pedestrian walkway system."

Vehicular Circulation

The master plan concludes that there presently exists on the Ball State campus a very real problem with the vehicular circulation. It was their feeling that thru traffic at McKinley was unnecessary. There presently exists a major problem at the corner of McKinley and Riverside because of problem presented by the intersection of the vehicular and pedestrian traffic patterns. Problems also develop on the campus because of the fact that there are inadequate parking facilities, and the sheer number of cars that are on the campus at one time also presents a major problem. These problems have resulted in the recommendation that an inner and outer traffic system be developed on the campus. This plan entails the revising of the existing street system around the campus and the closing off of McKinley from Petty to an area around Gilbert Street.

The outer Loop-

"The function of the outer loop system is to carry traffic around the Ball State University area. It should ensure
the smooth flow of vehicles headed to other destinations. Additionally, the outer loop should provide a quick and effective means of egress from the campus area to the lunicle traffic system. See pp. 13-14 of the Master Plan for actions that would be involved with this recommendation.

The inner loop—

"The basic concepts relating to the development of an inner loop system are:

1. Ease of access to any portion of campus on a controlled route.
2. Separation of vehicle and pedestrian traffic and creation of vehicle free zones.
3. Uniformation of the diversion portions of the campus and the creation of a total sense of identity."

See pp. 14-15 of the master plan for recommendations that are directly related to this concept.

Alternatives presented to closing Riverside at the intersection of the pedestrian walk:

1. The establishment of new signals and the creation of a buffer zone to separate the pedestrian from the vehicular traffic.
2. The development of a pedestrian underpass beneath Riverside.
3. The development of a pedestrian overpass over Riverside.
4. Depress Riverside and provide a pedestrian overpass.
5. The elevation of Riverside for vehicular traffic.

Concept studies for the north academic area

Concept A—This concept is based on a split circulation pattern. Circulation occurs in two main areas; one is within a series of buildings that helps to define a plaza area which becomes the second circulation space.

Implications and Considerations
1. Moderate density development
2. Building heights: 3-6 stories
3. Flexibility in phasing
4. More land area used
5. Dispersed development follows existing architecture
6. If building heights are kept to four stories, elevator costs are eliminated
Concept B - This concept is basically that of a spine or single line circulation system. All pedestrian movement occurs along this spine.

Ramiﬁcations and Considerations
1. Lends itself best to high density buildings which can be tied to the spine
2. Creates an object in space rather than a space
3. Does not enhance overall architectural continuity
4. Tends to use less land
5. Results in higher unit costs and loss of ﬂexibility in phasing and growth

Concept C - This concept is based on a point or single focus circulation system. All circulation and construction occurs around this interior space.

Ramiﬁcations and Considerations
1. Highest land density development
2. Uses the least amount of land
3. Provides little continuity with existing buildings
4. Most costly and least ﬂexible

Final Recommendation

The master plan committee recommends that a variation of concept A be followed. They feel that the buildings be limited to a story height of four floors and that they be in a contiguous development around a spine space. All prime circulation routes should be oriented to the ground level and they also feel that the library be integrated into the complex.
Description of areas

Coatrooms-

"A single central coatroom is not likely to be patronized as it cannot service all areas of the building adequately. Coatrooms scattered strategically throughout the building can better serve their purpose, but operating such rooms on a checking basis is usually prohibitive in terms of payroll..."

If coatrooms are to be used as check rooms they should be fairly shallow to expedite service, arranged throughout the building in numerical sequence and properly labelled to eliminate the wandering of attendants and patrons in search of rooms which correspond to specific checks. Some space should be devoted to the storage of umbrellas and rubbers as well as bulky packages."

Information center-

"Because running such a single function throughout all the union operating hours is expensive, most unions cannot afford an information center unless it works in conjunction with services other than that of dispensing information. In addition to the activities to which an information center can assist, the staff or students who run it may help in checking coats, typing, telephone answering, selling tickets, running the lost and found service or the building switchboard, operating a duplicator, issuing equipment or performing any of a number of other routine tasks... To fully succeed, an information area should be located near the entrance of the building...."

A telephone, campus and town or city directory, street and highway maps, bus, airline, and rail timetables are among the minimum equipment of the center.... Campus maps, fliers, and college catalogues are often distributed here. Daily and weekly activity information should be available and a locator file or up to date student-faculty directory is a definite asset....

Should the building have a paging and public address system, its controls may well be located here....

The information center should be attractive since, among other things, it affords newcomers an initial impression of the whole building."
Ticket booth—

"Ticket selling some place in the union... is an extension of the union's service function.

Location of the ticket office should be such that purchases may be made as quickly as possible.

The equipment of the ticket office varies with the number and kinds of sales. Obviously a cash register with several drawers, properly divided to hold tickets, which may be of varying shapes and sizes or on rolls is needed. If tickets are accepted for sale at the booth, room for receipt forms becomes necessary. A counting table, filing cabinet, chair and stool, adequate lighting and ventilation, and unless adequate facilities are nearby, a safe are needed.... Some sort of announcement board should carry the information such as dates, prices and places, concerning the events."10

Public telephones—

"Public telephones, while furnishing revenue, render a service that requires practically no effort on the part of the union staff....

To a telephone center might be added seating for those who expect return calls, and a coin changer; the latter is useful if sufficient occasional supervision is available to prevent wholesale tampering....

Since an added telephone directory or two occupies little space, conduit and space for extra booths permit reasonable expansion of the telephone center....

Strong ventilation of the telephone center is needed and ash urns should be easily available, since smoking in such areas appears to be compulsive. Lighting over the directory should be about 75 foot candles with brightness balance not too important."11

Rest rooms—

"The floors of the rest rooms should be non-slip. The amount of water used can make for very slippery floors and the chemical action of urine on cement not only causes deterioration but unpleasant odors. Non-slip terrazzo, quarry or ceramic tile are satisfactory floor materials. Floor drains and hose outlets make cleaning easier, as do wall and ceiling hung fixtures, such as basins, urinals, toilets and toilet partitions. A floor area devoid of obstructions and impervious to water can be boarded and scrubbed easily, an important feature in toilet areas. Forced ventilation with separate
ducts is necessary for toilet rooms to permit the proper exhaust from the area and the building.

Wash basins in public places are seldom used to remove dirt or grime and the need for stoppers may be questioned along with separate hot and cold faucets. One single faucet with an automatically closing valve dispensing warm water may serve the purposes of the rest room. Soap dispensers at each basin, whether using liquid, lather, bar or powder, should be as leak-proof as possible. Use of a piping system for liquid soap emanating from a central reservoir might be useful in large rest rooms because of the labor saved in filling only one tank.

Smoking occurs frequently in rest rooms, and ash trays or urns are desirable near the entrance, washbasins and mirrors. Traffic interference in rest rooms can be lessened if lavatories, toilets and urinals are located on different walls. In ladies rooms it may be desirable to provide seating in front of mirrors with a make up ledge or shelf, complete with ash trays. This is particularly desirable for the ladies rooms serving the ball room, where a separate lounge with vanity benches and easy chairs can be located adjacent to the rest rooms.

Flushing toilets and urinals presents something of a problem, since some persons fail to do so, creating odors and uncleanliness. Automatic periodic flushing of urinals by means of master valves solves much of the flushing problem but at the expense of considerable water waste.

Toilet rooms (one for each sex) backing up to each other and separated by a service space of about 30 inches offer a plumbing saving and easy maintenance. Each room should be at least ten feet wide and have its entrance shielded to prevent visibility from the corridor.

The scattering of rest rooms throughout the building is limited by plumbing lines; however such lines should be positioned in advance to permit the installation of rest rooms near large seating and food service areas. Because of additional traffic, first floor rest rooms might well be larger than others in more segregated spots. More washbasins should be installed near food areas and game rooms.
Employee's rest rooms allowing a degree of privacy perhaps in connection with a rest lounge help staff morale. If food, custodial and maintenance employees change uniforms on the job, locker rooms are a necessity and should be well ventilated, comfortable, and attractive. "12

Duplicating facilities-

"Intercampus mail deliveries with no postage charges make mailing a very desirable means of communication. Actually much the same sort of thing is true of other student organizations. The availability of duplicating equipment to the union staff and board as well as to other organizations is quite important. The equipment might range from the gestetn hectograph process through offset duplicating. For most purposes a simple spirit duplicator of the ditto type lends itself to operation by nearly anyone after a few minutes experience....

Papers and ink or fluid storage, room for finished copies, operators space, and perhaps a typewriter, desk and chair for master preparation are needed in addition to the space occupied by the machine itself....

Nearly indispensable to a union operation is a post card duplicator which operates on the stencil principle, occupies the space of a small table radio and can be used immediately for running off announcements of meetings, notices, emergency tickets or advertising."13

Lobby-

"As the union building usually is the scene of gatherings after shows and athletic contests, on homecoming days, at convention times and similar occasions, it should be prepared for the sudden appearance of crowds. The existence of a large reception lounge adjacent to the lobby with large doors or a folding wall ready for opening to extend the confines of the lobby proper, accommodate these surges without lessening the daily effectiveness of the lounge, which the usual lobby traffic and bustle is certain to do to an open lobby-lounge....

The lobby's function is that of receiving arrivals and aiding in distribution throughout the building. Building and activity directories should be prominent and explicit to permit host of those who enter to find their way to their destination while acquainting all entrants with the events scheduled for the day. The information center should be
obvious and convenient, and the cost roomy and hardy. Because the
lobby adjoins the main entrance it should offer little in the
way of impediments to traffic, not only to permit good cir-
culation, but also because it is a prime emergency exit. It
should be wide enough to prevent the concentration of people
which inevitably gather there from obstructing others using
the area."

Delivery area-

"Regardless of the administrative devices used in re-
ceiving, the area requires a platform, an access road, park-
ing space, and room for immediate storage, uncrating, weigh-
ning or checking...."

Space left for additional parking and turning of trucks
and for the extension of an unloading platform assists ma-
terially in expanding the delivery area to permit simultaneous
loading and unloading. Finding additional space inside the
building is not so simple, but the need for such extra foot-
age can be lessened if interior transportation to storage
areas such as elevators, curb waiters, conveyors or dollys
is efficiently planned at the beginning....

When expanding, the placement of new storage and ser-
vice spaces near the original delivery area to avoid long
internal transportation or interference with public areas
eliminates wasteful unloading zones inside the building or
long delivery areas.""

Trash and Garbage Rooms-

"The delivery area, by its nature, is the logical place
for trash and garbage collection. A trash and garbage room
should be adjacent to the delivery platform for ease of re-
moval as well as deposit of crates and cartons resulting
from unpacking. If a trash incinerator is included in the
building it should also be located here to permit ease of
removal of ashes and quick burning of the debris resulting
from the unpacking. Each of the rooms should be separated
from the others and have its own lock to eliminate pilferage,
vandalism, and rodents and should be of fireproof construc-
tion with fire detection and fighting equipment well distributed....

To function properly trucks must be able to back up to
the platform easily and leave promptly.... Few deliveries
are made other than door to door, which means that an unloading area should be large enough to accommodate shipments if storage space or a working crew is not immediately available. Actually, if the unloading platform opens directly on the receiving room, drivers usually drop their deliveries inside."

Storage-

"Nearly all activities require storage and many, such as the food, genes, theater and hobby areas demand specialized storage areas."

The way in which the various union facilities function determines, to a large degree, the kind of storage needed.

Storage areas should be large enough to provide sufficient working space for loading, unloading or inventory taking, including the use of hand carts or forklifts where necessary. Floor storage should be avoided, particularly in food areas to prevent possible damage from leaks. Storage areas should be cool, insect and rodent proof and protected from overhead leaks or backed-up drains. Floors should be hard, smooth, non-slip and non-porous, on the same level as other floors, without thresholds, and able to withstand heavy weights and blows without damage.

Moving articles from receiving to storage to the point of consumption or use is an important function performed within the union building. Freight elevators, derricks, horizontal conveyors, hand trucks, dollies, platform trucks with jacks or even fork lift trucks should be considered during the original planning and doorways, corridors and storage spaces should be built to permit the passage of whatever mobile equipment is selected."

Janitor closets-

"With its facilities quite likely to be used the equivalent to two complete weekdays seven days a week, and with its traffic apt to be heavier than that of any campus building, the union plant presents inor shalt demands on its cleaning staff. Not only is it a busy place, but also many of its appointments demand more attention than the usual classroom building."

The kind of janitor’s closet varies some with the locating. Some may require space for a linen cart, others a floor machine.
In general, however, the requirements are the same. The janitor's closet should be large enough to house one sixty-gallon mop tank, an eighteen-gallon, two section tank, a six-foot ladder, a wet-dry vacuum cleaner, a buffer and linen cart, and be equipped with a sink; a floor type hopper, hangers for dusters, brooms and brushes as well as shelving for supplies, bulbs, ash trays, toilet tissue and the like. 10

Food areas-

"The variety of food services offered by union buildings equals that of large modern hotels. They include soda fountains and grills, cafeterias, private dining, service dining rooms, coffee shops, faculty dining rooms, commuters lunchrooms and banquet rooms...."

Since the dining service is the main source of union revenue and caters regularly to a large segment of the campus, it is extremely important that it be planned, constructed, and operated properly.

The purposes of the union can be partially achieved by dining services, since they by name and nature, perform the secondary function of service. The fulfillment of the primary educational function of offering the best possible social, cultural and recreational experiences depends on the planners and organizers. As an important employer of student labor and, in some cases an actual curriculum laboratory, it has inescapable educational experiences....

The nature and complexity of the basic menu pattern determines the kind and the number of meals to be served and the size and amount of equipment required. With this information available a flow chart can be prepared. All food flow charts are basically the same, as in all food operations food is received, stored in either dry stores or under refrigeration, is prepared....is served in some fashion, consumed and its remnants disposed of in the garbage or dishroom. It is the function of the union's food service to expedite this flow so that the purposes of the union are served. The concept of dining as opposed to feeding appears to best describe the union's food service function....

With the flow process of receiving, storage, preparation, service and disposal in mind, such other operational aspects as purchasing, accounting, cleaning, supervision, personnel
administration, and record keeping must not be overlooked, and the whole must be integrated into a single plan. The use of a single large kitchen with some auxiliary preparation space such as short order or fountain room makes the union building the scene of an efficient food service.

Whether or not the whole food service is located on the first floor, or even on the same floor, it is certain that deliveries and pick ups must be made from a street level. The receiving dock, receiving room and garbage and trash storage must connect with the street, and a receiving office overlooking the dock expedites opening doors, examining, weighing and counting goods, and checking invoices. The perpetual inventory system starts here.

Because the food service operation begins and ends on the street level, there are many reasons why the rest of the operation should be located here. Supervision and communication are easier, dirty root vegetables may be cleaned near their receiving point, dairy and other products may be quickly refrigerated, unpacked goods may be moved quickly to storage after weighing and counting, and garbage and trash require less transportation. If the receiving area is alone at the unloading area, a freight elevator should be adjacent to it to permit rapid transportation to the storage areas.

As the flow process continues to dictate layout, the storage areas, including dry, root, cereal and day, are next to the receiving area. The various storage centers should be near their respective preparation areas, and the root storage, containing a pre-preparation section from which dirt and peelings may be removed, should be closest to the receiving area. In this way waste goes to its refrigerator. Vegetables proceed from their storage to the adjacent vegetable or salad preparation areas.

A few of the many items to consider in the general layout include:

1. Placement of a scullery or pot-washing center in the kitchen
2. Arrangement of the supervisory offices to provide good vision
3. Prevention of cross traffic
4. Placement of freezers inside walk-ins where possible
5. Allotment of an area or room for the thawing of frozen foods
6. Inclusion of china and linen storage as well as storage for tools used in cleaning up spillage
7. Location of compressors and similar equipment in easy to reach positions
8. Possible construction of walk-in refrigerators next to each other
9. Allocation of serving areas or pantries for all dining rooms, including storage where needed for linen and silver
10. Possible use of labor from one area in another as work progresses
11. Location of the loading dock on a large loading area
12. Placement of patrons coat rooms and toilets near dining room entrances
13. Location of the kitchen in the center of the dining areas to permit service in several directions
14. Arrangement of enough area for purchasing control to eliminate paying for goods not received, underweight, or unacceptable quality
15. Rectangular or square kitchens are most convenient

The receiving facilities of the food area need not be separate from the rest of the union building. If combined to serve all of the other areas, they may permit the employment of a receiving clerk. A central storeroom for non-perishable items is quite feasible as well, and such arrangement may make it possible for even small unions to use a receiving clerk—storekeeper.

Storage in the food area includes dry stores or non-perishables, dry stores, refrigerated stores, frozen stores, and garbage and trash storage. Some may include several subdivisions such as freezers for meat, fruit, vegetable, and ice cream or dairy products.

The cooking area is the heart of the dining service, and materials flow into it from vegetable preparation, dry and refrigerated storage, and from it to the salad service, garbage, and pot-washing units.
The service areas are directly between the various preparation areas and the dining areas in the flow chart. They are usually the places where the food is placed on individual plates and distributed, and may take the form of a cafeteria counter, a service kitchen or pantry, a waitress station, a serving counter in the kitchen or a station near a short order kitchen. In this area food must be kept hot or cold and dishes stored. Dispensing or food occurs here for consumption in large areas.

The prepared food in larger unions may go in several directions from the central kitchen.

Soda fountains and grillerooms are really miniature food preparation areas. They receive, store, prepare, serve and dispose of food, have records to be kept, and cleaning to be done.

Since some of the unions educational and service programs are carried out in the dining areas, they must do more than just house eaters. In addition to eating, card and chess playing, entertainment or speeches may occur here. They may house displays or serve as rolling places. Meetings and private parties may occur here. Therefore, more than mere feeding stations, the dining rooms are really meeting places for people. They are important in bringing students, faculty, alumni, staff, and the public together and they further the unifying concepts of the term, union.19

Meeting Rooms

"The need for many small meeting rooms does not eliminate the demand for larger ones. Enough of each is expensive and the compromise of dividing large rooms into smaller ones by means of sliding or folding walls is a widely accepted one, even though it is a compromise with faults centering largely around the acoustic problem. The varying demands upon meeting rooms are reflected in the seating requirements. Unless each room contains seating equaling its capacity auxiliary seating in the form of folding chairs should be available to increase the capacity of the rooms as demanded. Extra chair storage should be provided to permit removal of chairs from the meeting rooms."20

Lounges

"Lounges lend themselves to a multiplicity of uses, not
the least of which is ordinary lounging. The casual conversation between classes, the last minute perusal of a textbook, the heeding of an appointment or reading of a newspaper, are representative of the informal, unplanned activities which occur in the lounge area. If lounges are used for a variety of planned events, they often are unavailable for lounging. It may be that the attendance at such events may profit from the unintentional appearance of those seeking to use the lounge in its normal fashion, but recurring use of a lounge for a variety of events is apt to limit eventually its use for lounging. Since lounges are most popular as meeting places, it appears desirable to include more than one lounge in the union building, with at least one always available for spontaneous, off-hand use. The alternative to this—incorporation of only one lounge—is the establishment of a policy which eliminates the use of the lounge by specific groups for activities of limited appeal....

The expansion of lounge facilities is more easily accomplished than that of some other facilities. Lounges may be scattered throughout a building, and the conversion of meeting rooms or offices into lounges is more readily affected than many other transformations. Lounges offer less noise and traffic problems; hence may be located near most other facilities except the noisiest ones, such as gym rooms or kitchens. Expansion into new areas is rather easily achieved for such the same reasons of adaptability and flexibility. A limiting factor bearing upon expansion centers around the variety of uses to which a particular lounge is to be subjected, since a very busy lounge embracing a series of activities requires a special attention to traffic, noise and cost checking. Hence the projected growth of a lounge, addition of a new one or conversion of an existing area should recognize these special considerations.

The flexibility of lounges indicates that they may be called upon to house large groups with a consequent need for proper ventilation and lighting. Built in public address systems with several microphones outlets in the larger rooms halves for flexibility. If growth of these areas is contemplated, easy addition to such services should be possible."

"While all colleges have libraries, they seem to be considered places primarily for work, so that much can be done
by a union browsing or reading room to stimulate good recreational reading habits on the campus. Avoidance of the library stigma may be achieved by using comfortable chairs with air conditioning, decorative plants, proper lighting, by not numbering the binding of the books and by restating the reading needs through a selection committee. Certainly atmosphere is important if the browsing room is to be the sort of place where students and others go for intellectual stimulation or satisfaction, or to while away some time.

If the browsing room is not to become a library with much dead or obscured storage, it should allow for expansion as it accommodates a growing collection. Such expansion can probably be accomplished more easily by leaving wall space available for additional book shelves or periodical stacks; the usual library stacks or sheet shelving do not offer the attractiveness desired of a browsing room atmosphere... There is the possibility of combining music listening, art displays and reading rooms into a sort of cultural center with the supervision and the equipment issuing for all, handled from one control point...

The normal functions most likely to be carried out in the browsing room are book, periodical, and newspaper storage, reading and book selection. Books are usually shelved around the periphery of the room, and this area should be separated from furnishings and equipment by an aisle wide enough to permit persons to select their books easily. Periodicals and newspapers require less browsing room and may be incorporated into a lounge arrangement of furniture by use of standard stacks or by storage on coffee or other tables...."22

Music Rooms-

"Marked changes have occurred in the field of music listening during the last decade. Record changers, the long playing record, tape recorders, and hi-fi fidelity have increased tremendously the interest in reproduced music and have offered unions a real opportunity for improving the level of musical understanding and interest of their students....

Individuals listening to music may do so in booths, small rooms or lounges of varying sizes. They may be using earphones which can disturb no one, commercial combination phonograph radios, or custom built high fidelity sets.... Records and tapes may be kept with the player and used by anyone, they
may be issued by an attendant, or they may be private property....

Because the union should be a medium for group and individual self-discovery and expression through a broad program of social and cultural recreation, the music room offers much that can make the union a medium....

Exposing students to new experiences is part of education, and bringing college students into contact with such cultural portions of the union as the music room and art exhibits is a desirable project not easily completed. There may be some danger that holding all music programs in the music room will become little more than a gathering place of the relatively few who are already convinced of the importance of music in their life. The presentation of both live and recorded music programs in lounges and other parts of the building may help to bring new students into the music room. If this is intended, then pianos, amplifiers, record players and other equipment should be considered during the planning stage. As in the case of the reading room, efficient means of food catering to the areas should be incorporated in the building if coffee hours and the like are anticipated."

Art Display Rooms-

"The art room's prime function is fostering of appreciation, and although lectures and similar programs may be offered there, it is an area for exhibit most of the time....

Expansion of the art room may be achieved not only by enlarging the room but also by increasing its facilities for exhibition. Portable display boards and shelves may be constructed for large displays and moved into the art room when needed.... Expansion of display area may also be obtained by utilizing corridor, lounge and meeting room spaces, and if this is intended, provisions in the form of wall holders and display cases should be made prior to the blueprint stage. Exhibits in such areas, like concerts held outside the music room, tend to increase the number of persons brought into contact with art....

With esthetics the basic appeal of the art room, it seems only natural to demand that the room be esthetically pleasing as well as functional. The layout of its art apt to entice students or others into it, to enhance the appearance of the exhibits themselves, to inspire gallery committees nor to heighten the appeal of the room for other purposes.... All walls in
the room should facilitate easy display.... Nearby storage of such portable equipment should be available and should be large enough for temporary storage of some furniture from the art rooms if traffic circulation during large exhibits demands its removal. Swivel spotlights in the ceiling to augment the normal illumination of the room provide the flexibility of the lighting needed....

To function properly, the art room must display its wares well, be enjoyable to use and easy to arrange....

While a greater appreciation of art is a function of the art room, and one which should be served in every way possible—periodicals and books of art, print collections, lectures, illustrated talks—it is quite possible to interest students in doing their own works by displaying as much student art, craft, photography and similar work as is warranted in the room and its adjuncts.

The art room needs storage space for its portable equipment, auxiliary seating, its own collection, its circulating collection, for arriving and departing exhibits, and for crating and uncrating."

Commuters Areas—

"Their demands on the college naturally differ from those of the residents. They need parking space on the campus, a place to eat a bag or light lunch, storage place for books, lunches and similar equipment, a spot for resting or perhaps an occasional overnight stay. While the union is not necessarily the location on the campus where such services must be rendered, it seems to be the logical place for many of them.... If the union building is to be a unifying factor on the campus, it must be prepared to serve this oftentimes large segment of the student body....

Small lockers, large enough for textbooks, binders and lunches, located near a commuters lunchroom or another food service area may fill the need. They should be in a well ventilated and cooled room and master keyed for periodic cleaning."
ADDITIONAL CONSIDERATIONS
Neighborhood, city, region-

The new student union will be located on the campus of Ball State University in Muncie, Indiana. The influence of the Ball State campus on the community of Muncie must not be overlooked in this report. Various campus-community projects have been undertaken and paid for on a joint venture. The student union and Rec Hall Auditorium are two buildings that were established in this manner. It must also be recognized that the Ball State campus has a very dynamic economic influence upon the community, both in that it serves as a large employer of many of the townpeople as well as the students themselves serving as a primary source of spending revenue.

Primary adjacent influences-

There are two very important influences that must be recognized in this design—two existing buildings. One is the new library and the other is the Rec Hall Auditorium and lecture hall area. These two areas are important influences on the design of a student union anywhere. These activities must be recognized as traffic generators and should be realized as psychological campus centers in that they do bring people together in large numbers for various reasons.

Utilities-

The utility system (electrical lines, steam lines, and chilled water) are distributed throughout the campus by means of a utility tunnel system. This system runs under the sidewalk on the east side of McKinley.

Growth potential-

It should be recognized that there should be allowances made that would allow the facility to grow in years to come. It is estimated that Ball State's population will reach 25,000 by the year 1960, but more important than this is the fact that one cannot accurately project how the universities needs will change over this period and even later than this. New concepts and needs of the union right in themselves be responsible for growth of the existing facility.

Zoning limitations-

At the present time, part of the site is zoned residential, while the rest of the site is owned by the university.
The university has always been anxious to purchase this residential land which would have to be purchased to develop the existing master plan. It is presently thought that within a few years the university will secure this land and it will become a part of the university’s land equity.

Financing-

"Everything costs money. As has been stated often, the best money the college spends is on its planning. In order to get the initial work done, expenses for committee, for telephone calls, travel and consultant’s fees and attendance at conferences must be defrayed. In some cases the cost is for the interviewing of candidates when the college decides that it wants to have the director on the spot at the earliest moment. The following are some possible sources of money to defray initial expenses;"

1. Appropriations by student government
2. Administrative reserve funds
3. General building planning funds
4. Assessment of student fees....
5. Miscellaneous student organizations’ balances....
6. Solicitation with college approval of gifts from interested alumni and board of trustees
7. Funds from the office of development
8. Planning grants

All of the above ways of raising money are important for they pave the way for planning and for study of the most economical use of subsequent capital, and for operating funds once the union is underway....

Fund raising sources-

a. A fund campaign conducted by the institution itself through its office of development which taps sources of alumni, corporations, foundations, trustees, and friends of the college
b. Special fund raising efforts on the campus by the faculty and staff
c. Special fund raising efforts by the students."

Soils-

The following soils recommendations were taken from the soils report that was done for the new College of Architecture
and Planning which is a building that is located on the general site on which I am working.

"Covering the site is a thick deposit of predominantly silty clay to sandy silty clay. This deposit extends to depths of about 10 to 24 feet below existing ground surface or elevation 926 to 921. The material was noted to be in a stiff to very stiff condition to depths of about 8 to 10 feet or about elevation 913 to 919. Beneath this the consistency of the clayey soils decreased and it was in a generally stiff condition....

Beneath the above discussed soil strata was a deposit of sand to sand and gravel, occasionally with rock fragments. Most of the borings were terminated within the granular deposit....

Our findings show that the proposed structure can be supported on shallow spread footings. The footings can be designed for net allowable soil pressures of 4,500 and 3,000 lbs./sq. ft. for column (square type) and wall (strip type) footings....

It is estimated that the resulting foundation settlements should not be more than about one inch and that these settlements should in general be well below this."/

For a more detailed analysis refer to the soil report done by ATEC Associates for the Architecture building.
AREA ASSIGNMENTS
### Area Assignments

<table>
<thead>
<tr>
<th>Area Assignment</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Lobby</td>
<td>3,000 sq. ft.</td>
</tr>
<tr>
<td>Reception/Information</td>
<td>400 sq. ft.</td>
</tr>
<tr>
<td>Administration Area</td>
<td></td>
</tr>
<tr>
<td>Director</td>
<td>250 sq. ft.</td>
</tr>
<tr>
<td>Ass't. Director</td>
<td>150 sq. ft.</td>
</tr>
<tr>
<td>Secretary</td>
<td>150 sq. ft.</td>
</tr>
<tr>
<td>Work Room</td>
<td>150 sq. ft.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>700 sq. ft.</td>
</tr>
</tbody>
</table>

**Telephones—Fifteen interspersed throughout the building**

<table>
<thead>
<tr>
<th>Area Assignment</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Copying Area</td>
<td>400 sq. ft.</td>
</tr>
<tr>
<td>Faculty Lounge</td>
<td>600 sq. ft.</td>
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<tr>
<td>T.V. Lounge</td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td>Reading Room</td>
<td>1,000 sq. ft.</td>
</tr>
<tr>
<td>Meeting Rooms</td>
<td>4,400 sq. ft.</td>
</tr>
<tr>
<td>Eight @ 400 sq. ft.</td>
<td></td>
</tr>
<tr>
<td>Four @ 200 sq. ft.</td>
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</tr>
<tr>
<td><strong>Committee Rooms (10-12 persons)</strong></td>
<td>2,000 sq. ft.</td>
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<tr>
<td>Twenty @ 100 sq. ft.</td>
<td></td>
</tr>
<tr>
<td><strong>Multi-purpose Rooms</strong></td>
<td>8,000 sq. ft.</td>
</tr>
<tr>
<td>Two @ 4,000 sq. ft.</td>
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<tr>
<td>Art Gallery</td>
<td>1,000 sq. ft.</td>
</tr>
<tr>
<td>Music Room</td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td>Private Lounge</td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>3,000 sq. ft.</td>
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<tr>
<td>Kitchen and serving</td>
<td></td>
</tr>
<tr>
<td>Snack Bar</td>
<td>500 sq. ft.</td>
</tr>
<tr>
<td>Janitor Storage</td>
<td>700 sq. ft.</td>
</tr>
<tr>
<td>Exhibit and Table Set Up</td>
<td>700 sq. ft.</td>
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<tr>
<td>Natatorium</td>
<td></td>
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<tr>
<td>Branch Bookstore</td>
<td>8,000 sq. ft.</td>
</tr>
<tr>
<td>Post Office</td>
<td>150 sq. ft.</td>
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<tr>
<td>Barber Shop</td>
<td>300 sq. ft.</td>
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<tr>
<td>Employee Rooms</td>
<td>600 sq. ft.</td>
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<tr>
<td>Coat Checking Areas</td>
<td>600 sq. ft.</td>
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<tr>
<td>Recreation Area</td>
<td>1,600 sq. ft.</td>
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<tr>
<td>Pool Tables</td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td>Chess area</td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td>Bridge area</td>
<td></td>
</tr>
<tr>
<td>Commuter Locker Room</td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td>Commuter Lunch Area</td>
<td>1,000 sq. ft.</td>
</tr>
<tr>
<td>Vending Room</td>
<td>400 sq. ft.</td>
</tr>
<tr>
<td>Rest Rooms</td>
<td>1,000 sq. ft.</td>
</tr>
<tr>
<td>Mechanical</td>
<td>4,000 sq. ft.</td>
</tr>
<tr>
<td>Circulation</td>
<td>6,000 sq. ft.</td>
</tr>
<tr>
<td><strong>Total Square Footage</strong></td>
<td>60,000 sq. ft.</td>
</tr>
</tbody>
</table>
REFERENCE NOTES


2. Frank Noffke, Planning For A College Union, p. 3.

3. Chester Arthur Perry, Planning a College Union Building, pp. 8-9

4. Ibid., pp. 9-10

5. The Perkins and Will Partnership, Ball State University Master Plan, pp. 6-7.

6. The Perkins and Will Partnership, Ball State University Master Plan, p. 13.


8. Chester Arthur Perry, Planning a College Union Building, p. 56.

9. Ibid., pp. 57-58.

10. Ibid., pp. 59.

11. Ibid., pp. 59-60.

12. Ibid., pp. 60-62.

13. Ibid., p. 63.


15. Ibid., pp. 66-67.

16. Ibid., p. 67.

17. Ibid., pp. 68-70.

18. Ibid., pp. 71-72.

19. Ibid., pp. 73-74.

20. Ibid., pp. 100-1.
22. Ibid. pp. 106-8
After analyzing the problems that face Ball State University at the present time, I have come to the conclusion that the major problem confronting Ball State's existing student union is that it is in the wrong location. Being presently located on the south periphery of the university, it is distantly removed from all natural student circulation. By relocating the structure more centrally, it could become more active because of the natural flow of people through it. This design would, physically, tie together three of the most active buildings on campus, i.e., the Teacher's College, the Library, and Emens Auditorium. Along with these buildings, the natural circulation of the students going from the north campus area to the south campus area would also act as a vehicle to generate activity.

There is also a bonus achieved by tying these buildings together physically. An important concept in the design of any student union is that of providing an informal educational process. By four separate buildings becoming one, the physical ability is obtained, for example, to allow a music major to play the guitar in the student union allowing music appreciation to develop.